

Navigating the COVID-19 crisis

Updated Briefing Report

12 June 2020

**STAKEHOLDER
STRATEGIES**

INTRODUCTION

This briefing paper provides an updated overview of the COVID-19 crisis, its near-term and longer-term implications, and how New Zealand's leaders should respond

- It integrates and summarises the thinking shared in our previous six releases on the COVID-19 crisis which provide more detail and are [here](#)

Content presented should be considered “draft” and “work-in-progress”

- It is not complete without accompanying verbal commentary
- The situation is changing rapidly, and our thinking is evolving. It is likely that some content will be out of date quickly

More information on Stakeholder Strategies can be found at www.stakeholderstrategies.co.nz

- You can sign up to receive any future COVID-19 research from Stakeholder Strategies [here](#)
- You are welcome to forward the content to others who would find it useful

NZ IS SUCCESSFULLY NAVIGATING THE CRISIS AND SHOULD LOOK TO BUILDING A BETTER “NEW NORMAL”

Situation New Zealand has eliminated the virus but is likely to face a severe recession

Challenge New Zealand should work towards a “Vibrant Haven” or “Green New World” future

Strategy New Zealand’s strategy should prioritise economic and non-economic wellbeing

Navigation Organisations should adopt tools which help to navigate high uncertainty

NEW ZEALAND HAS ELIMINATED THE VIRUS BUT IS LIKELY TO FACE A SEVERE RECESSION

COVID-19 is more challenging than the flu, with higher contagion and fatality rates

- Evolving understanding of virus suggests a wider range of people are at greater risk which, if true, may put developing countries at a significant disadvantage
- Having a vaccine available within 12-18 months is possible but highly uncertain

New Zealand's next one to two years depends on ongoing public health outcomes and the economic recovery

New Zealand has navigated the crisis well and appears likely to maintain elimination

- New Zealand has successfully eliminated the virus and has achieved a much lower overall death rate than the world
- New Zealand's public health measures are among the best in the world

A fast economic recovery is unlikely

The impact of the recession will be unequal between industries, regions and communities

COVID-19 IS MORE CHALLENGING THAN THE FLU, WITH HIGHER CONTAGION AND FATALITY RATES

	Key facts	Implications
Contagion	<ul style="list-style-type: none"> • R_0 currently estimated 2-3 with edge range estimates closer to 1.4-3.6 • R_0 for seasonal flu around 1.3 	<ul style="list-style-type: none"> • COVID-19 is twice as contagious as the seasonal flu
Current immunity	<ul style="list-style-type: none"> • No herd immunity exists yet as virus is novel in humans 	<ul style="list-style-type: none"> • Social distancing and strict hygiene are the only means to slow spread
Incubation period	<ul style="list-style-type: none"> • Mean of 6.4 days (ranging from 2-12 days) while seasonal flu is commonly a 3-day period • Data suggests viral shedding continues beyond symptom resolution 	<ul style="list-style-type: none"> • People are contagious for longer periods than the flu and many other illnesses, requiring longer bouts of quarantine
Fatality	<ul style="list-style-type: none"> • Case fatality rates range from 0.1% to 15%, are trending at 7.1% globally (0.1% for the flu) 	<ul style="list-style-type: none"> • Fatality is an order of magnitude higher than typical influenzas, even when accounting for differences in testing regimes
Portion of cases asymptomatic but contagious	<ul style="list-style-type: none"> • COVID-19 can be spread asymptotically • Experts estimate that of cases tested as positive, as high as 18-30% are completely asymptomatic, with another 10-20% with mild enough symptoms to not suspect COVID-19 	<ul style="list-style-type: none"> • People who feel “fine” are transmitting COVID-19 to others • Mass isolation or testing required
Portion of cases reaching “critical”/ “severe” infection	<ul style="list-style-type: none"> • Approximately 19% of confirmed cases are considered “severe” or “critical”, requiring hospitalisation, and 25% of those need ICU beds 	<ul style="list-style-type: none"> • Hospital systems risk being overtaxed (people, beds, ventilators and PPE) meaning case fatality rates could rise further

EVOLVING UNDERSTANDING OF VIRUS SUGGESTS A WIDER RANGE OF PEOPLE ARE AT GREATER RISK...

Emerging research suggests that the progression of COVID-19 in a person may be associated with oxidative stress in various organs such as the blood vessels, lungs, intestine, kidney, brain

The emerging oxidative stress theory may explain reports of unexpected symptoms, such as blood clotting, strokes and critical organ failures

Oxidative stress theory may also provide insight to relative risk factors of developing complications

- Oxidative stress related co-morbidities include cardiovascular disease, diabetes, and hypertension
- Ability to prevent oxidative stress decreases with age
- Women may be more protected due to higher levels of oestrogen which may increase defences against oxidative stress

Research is underway to understand the relationship between COVID-19 and oxidative stress further, and identify or progress potential therapies that intervene in the virus binding process

Sources: *Coronavirus Pandemic Update* series, MedCram. *Oxidative Stress as Key Player in Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) infection*, Archives of Medical Research. *COVID-19 Infection and Circulating ACE2 Levels: Protective Role in Women and Children*, Front. Pediatr.

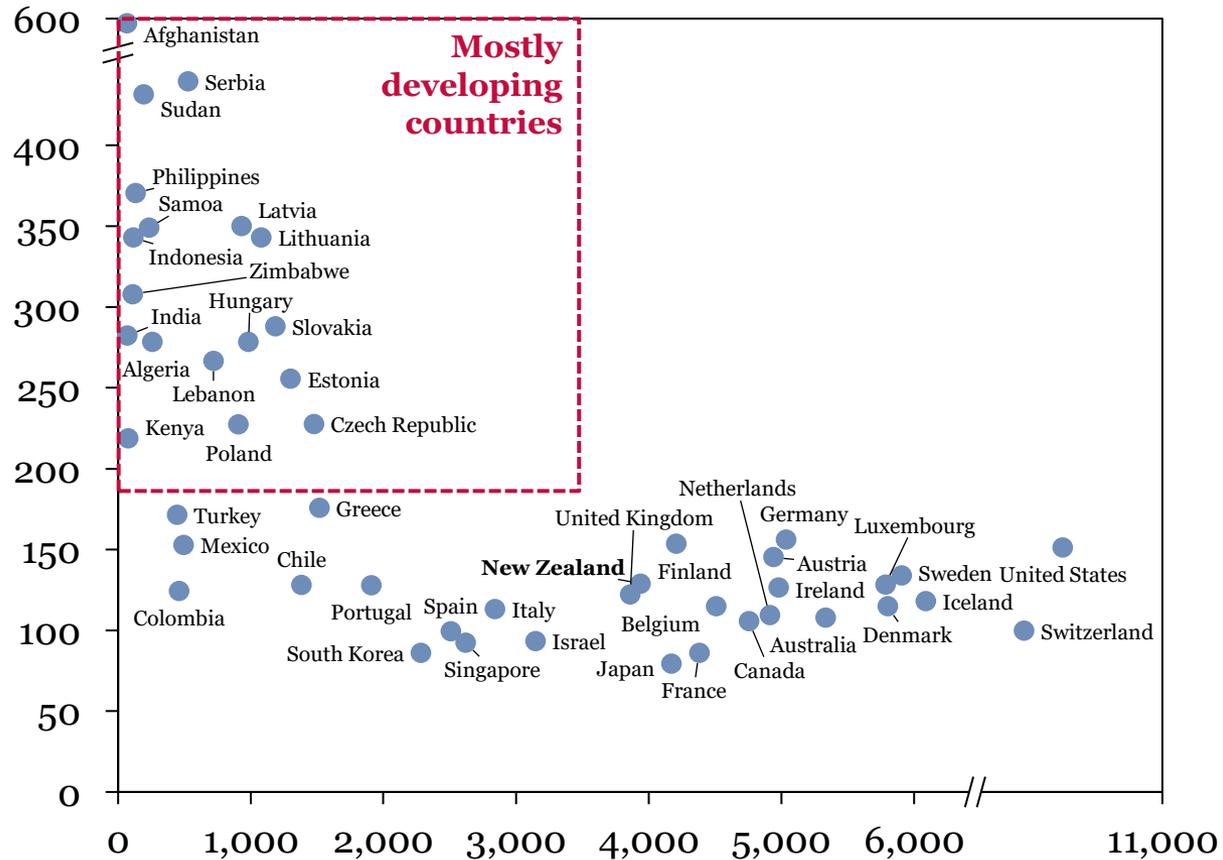
...WHICH, IF TRUE, MAY PUT DEVELOPING COUNTRIES AT A SIGNIFICANT DISADVANTAGE

Comparison of prevalence of cardiovascular disease and healthcare expenditure
 (deaths per 100,000 people by healthcare expenditure per capita, \$USD, 2017)

Deaths from cardiovascular disease per 100,000 people is used as an indicator for prevalence of oxidative stress related conditions

If oxidative stress theory holds true, then countries with higher rates of cardiovascular disease and less capable healthcare systems may be at greater risk of severe outbreak

Limited testing regimes in developing nations are likely masking the true extent of the severity of the COVID-19 outbreaks



Healthcare expenditure per capita (2017 \$USD) is used as an indicator of a country's healthcare system capability

HAVING A VACCINE AVAILABLE WITHIN 12-18 MONTHS IS POSSIBLE BUT HIGHLY UNCERTAIN

Layers	Options	Status	Barriers
<p>Vaccines</p>	<ul style="list-style-type: none"> • Traditional protein-based (longer timeframe but proven approach) • mRNA-based (quick to design but less proven tech and efficacy) • DNA based (quick to design but less proven tech) 	<ul style="list-style-type: none"> • Ten candidate vaccines in clinical evaluation, 123 in preclinical (WHO) • World leaders and organizations pledged \$NZ 13 billion to joint effort • Researchers collaborating globally 	<ul style="list-style-type: none"> • 12-18 months required to conduct safety and efficiency clinical trials, even if ‘fast tracked’ • Average development time is 5 years, with 4 years being the fastest • Significant manufacturing and distribution capacity required to ramp up production
<p>Therapeutics</p>	<ul style="list-style-type: none"> • Antiviral – slows virus spreading • Symptom relief • Immune system enhancement/antibodies 	<ul style="list-style-type: none"> • Currently, potentially 233 therapeutics being investigated • Trials are underway to test efficacy of existing drugs (e.g. Remdesivir trials showing promising results) • Front-line physicians are using some therapies off-label 	<ul style="list-style-type: none"> • If off-label efficacy is confirmed, significant manufacturing and distribution capacity required to ramp up production; current global stores insufficient • Existing therapies which may be effective, such as Remdesivir, may not be effective for everyone

NZ'S NEXT 1-2 YRS DEPENDS ON ONGOING PUBLIC HEALTH OUTCOMES AND THE ECONOMIC RECOVERY

Crisis and recovery period scenarios (now to 2022)

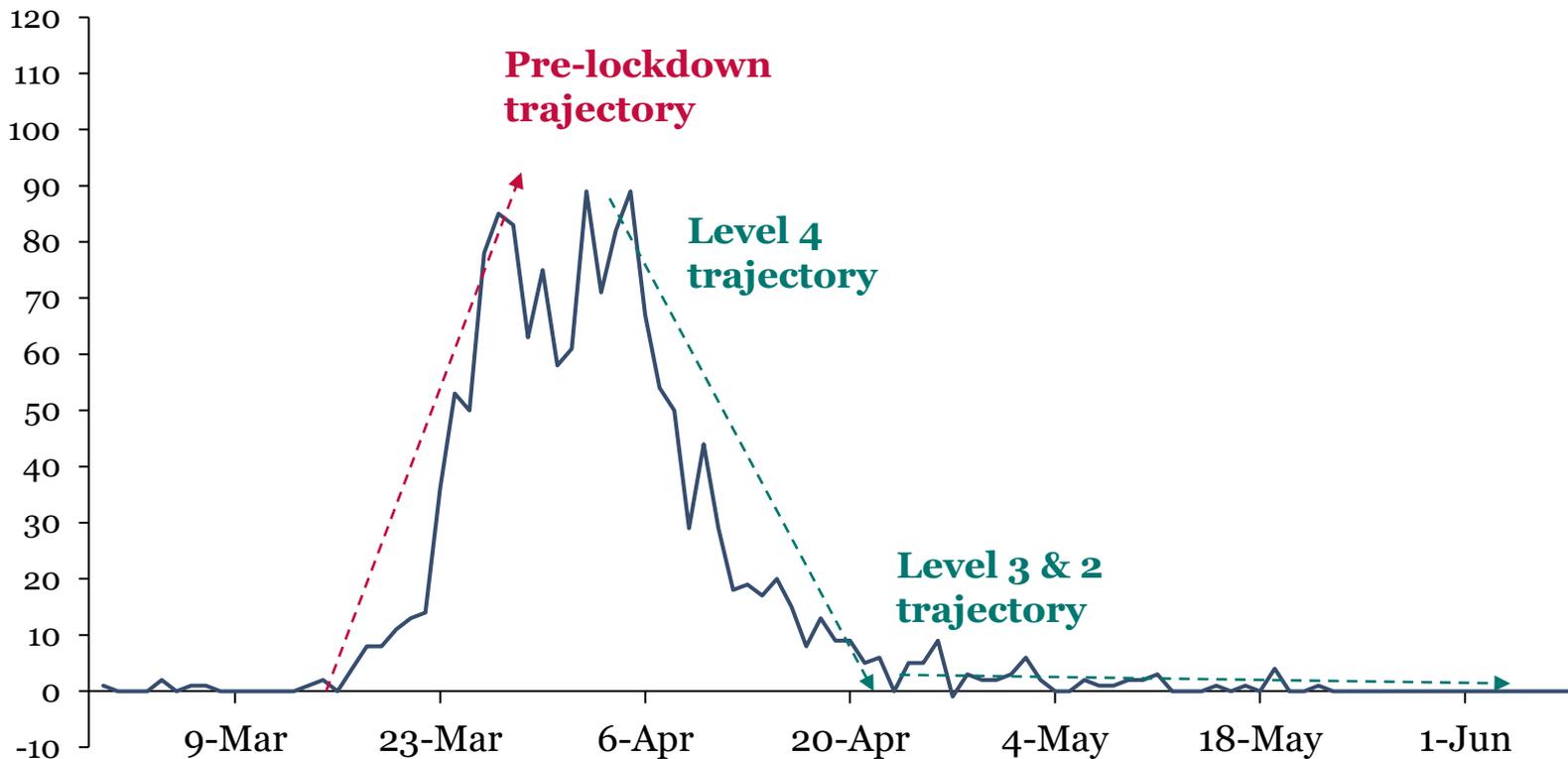
Scenario	Scenario drivers			High-level story
	Elimination in NZ?	Containment Globally?	NZ's economic recovery commenced?	
NZ Elimination	✓	✗	✓	<ul style="list-style-type: none"> New Zealand maintains elimination and reopens the economy (including limited international tourism) Most of the rest of the world struggles to contain the virus and experiences multiple or prolonged waves of infections New Zealand's economy begins to recover but is constrained by dependence on the faltering global economy
Global Containment	✓	✓	✓	<ul style="list-style-type: none"> New Zealand maintains elimination Most of the rest of the world successfully contains the virus but large numbers of people are still harmed New Zealand's economy recovers more rapidly, supported by the global economic recovery
Global Infection	✗	✗	✗✗	<ul style="list-style-type: none"> Containment fails in New Zealand and globally Some countries retain strict public health restrictions while others alleviate restrictions and accept higher levels of fatalities A severe global recession is experienced during the crisis

Wildcards:

- **Mutation** – the virus mutates, prohibiting faster than normal vaccine development and potentially becoming more deadly
- **Endemic** – a vaccine is not developed quickly and the disease becomes endemic, appearing more like Measles or Dengue

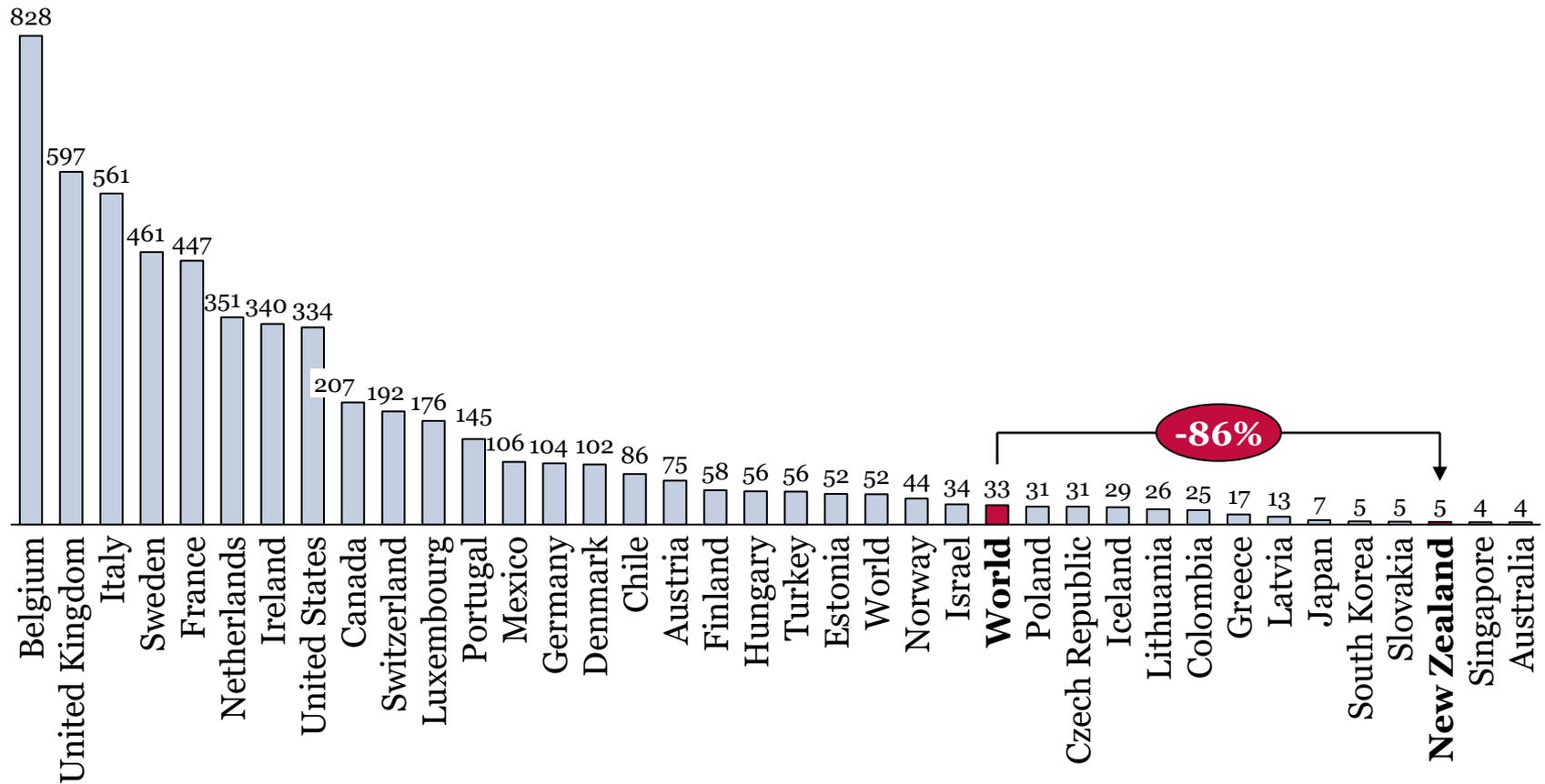
NEW ZEALAND HAS SUCCESSFULLY ELIMINATED THE VIRUS...

Daily new confirmed and probable COVID-19 cases in New Zealand



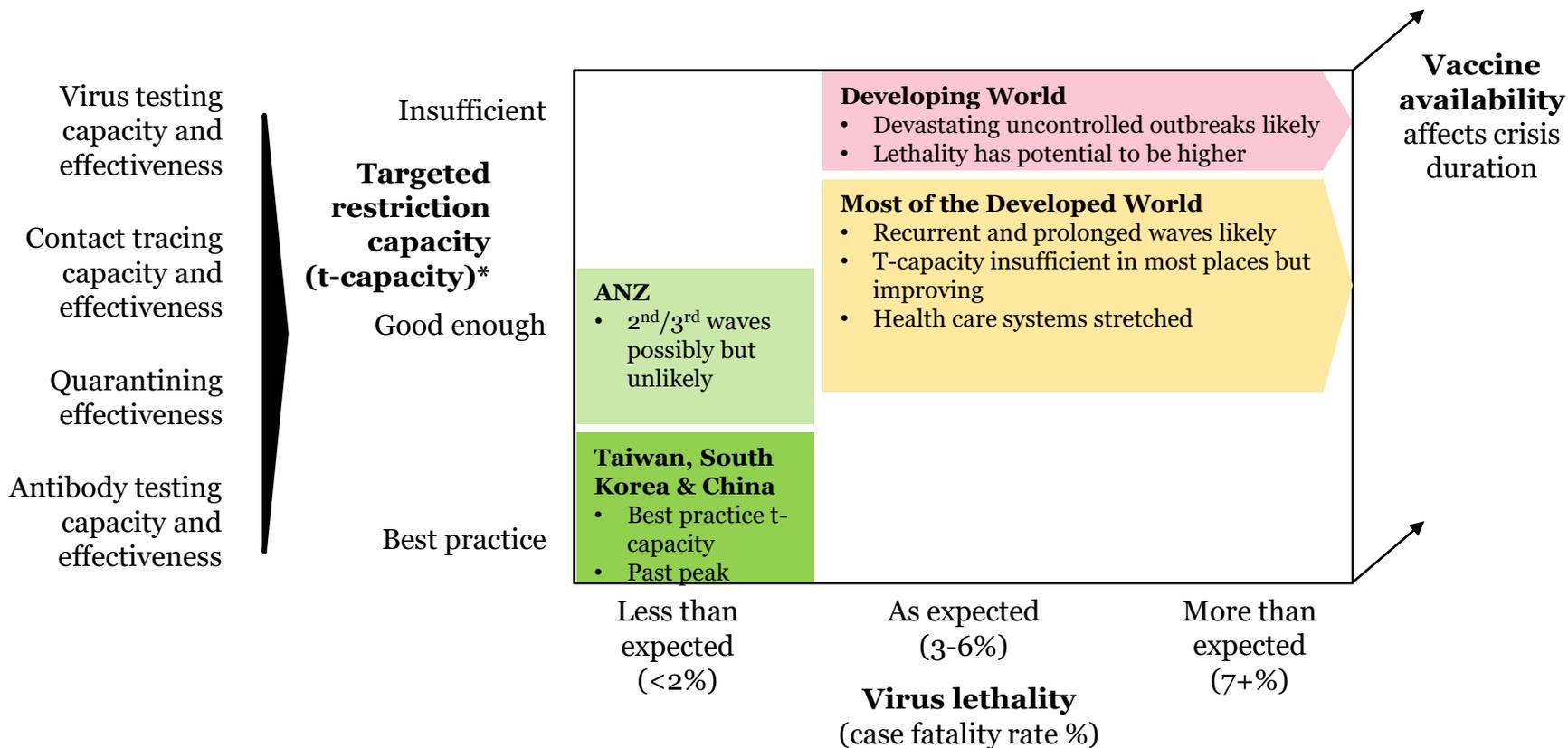
...AND HAS ACHIEVED A MUCH LOWER OVERALL DEATH RATE THAN THE WORLD

Confirmed COVID-19 related deaths per million people by country
(as at 8 June 2020)



NZ'S PUBLIC HEALTH MEASURES ARE AMONG THE BEST IN THE WORLD

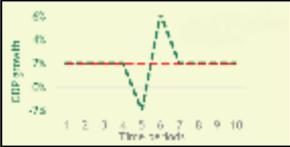
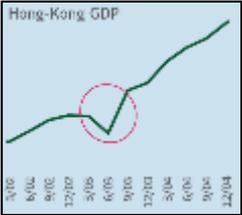
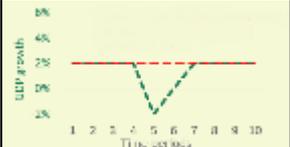
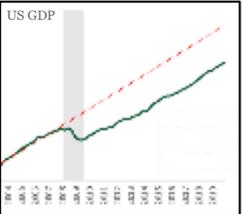
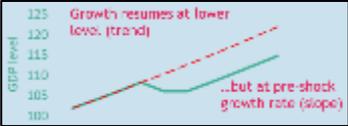
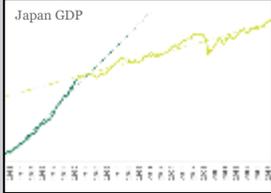
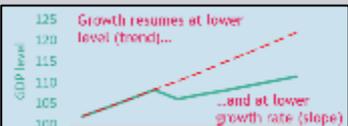
Current state of COVID-19 public health response



*The ability to rely on targeted public health interventions (eg individual quarantining) instead of mass interventions (eg lockdowns)

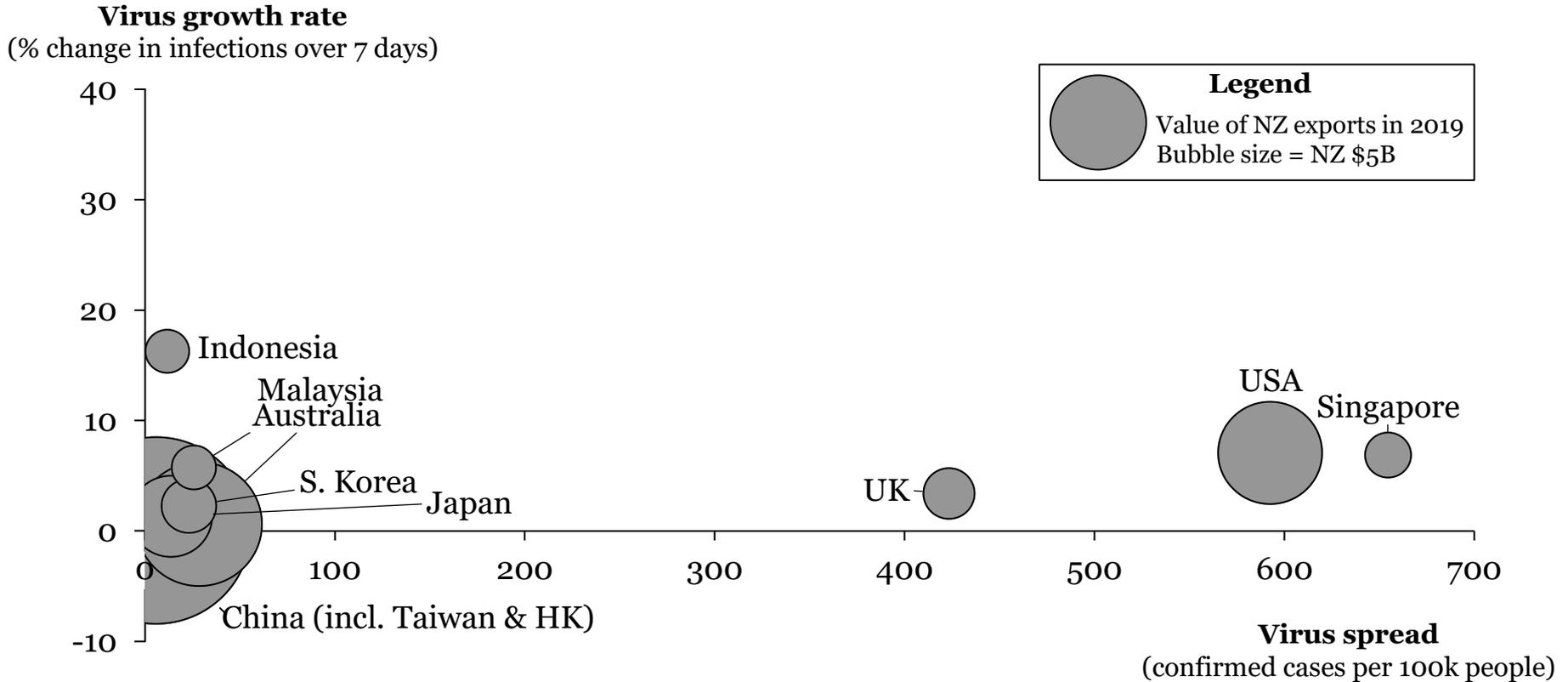
Lethality and comorbidities Risk of mutation Treatment effectiveness Health system capacity

ECONOMIC RECOVERY COULD HAPPEN AS A V, U OR L SHAPE

Type	Description	Duration	Illustration		Example
V-shaped	Temporary shock leading to short-term reduction in demand, which is quickly recovered once shock alleviates	~12 to 24 months	Growth rate		2003 SARS (and other epidemics) 
			Abs. GDP		
U-shaped	Shock breaks the growth trend leading to suppressed growth for a few years but ultimately recovery	~2 to 10 years	Growth rate		2008 GFC 
			Abs. GDP		
L-shaped	Shock that perpetually breaks growth trend. Involves a structural change in the economy that shifts future growth trend	More than 10 years	Growth rate		1990 Japan asset bubble 
			Abs. GDP		

NEW ZEALAND'S TOP EXPORT PARTNERS APPEAR TO HAVE CONTAINED THE VIRUS...

Virus impact on top export partners: Jun-2020



But recurrent waves of infection should be anticipated

...BUT THE GLOBAL ECONOMIC DOWNTURN IS LIKELY TO BE LONG AND SEVERE

Most developed and developing world countries will struggle to contain the virus

- Case numbers are already high and continuing to grow
- Lockdowns are becoming increasingly unattractive to politicians in developed countries and may not be economically feasible in developing countries
- In most countries, testing, contact tracing and quarantining capacity is not scaling quickly enough to enable containable without lockdowns

Asynchronous lockdowns and prolonged/recurrent waves of infection will exacerbate supply chain disruption

- Easy to shut-down plants but difficult to restart
- Epidemic likely to disrupt production and therefore exports of raw materials and components, as well as demand for imported finished goods and equipment

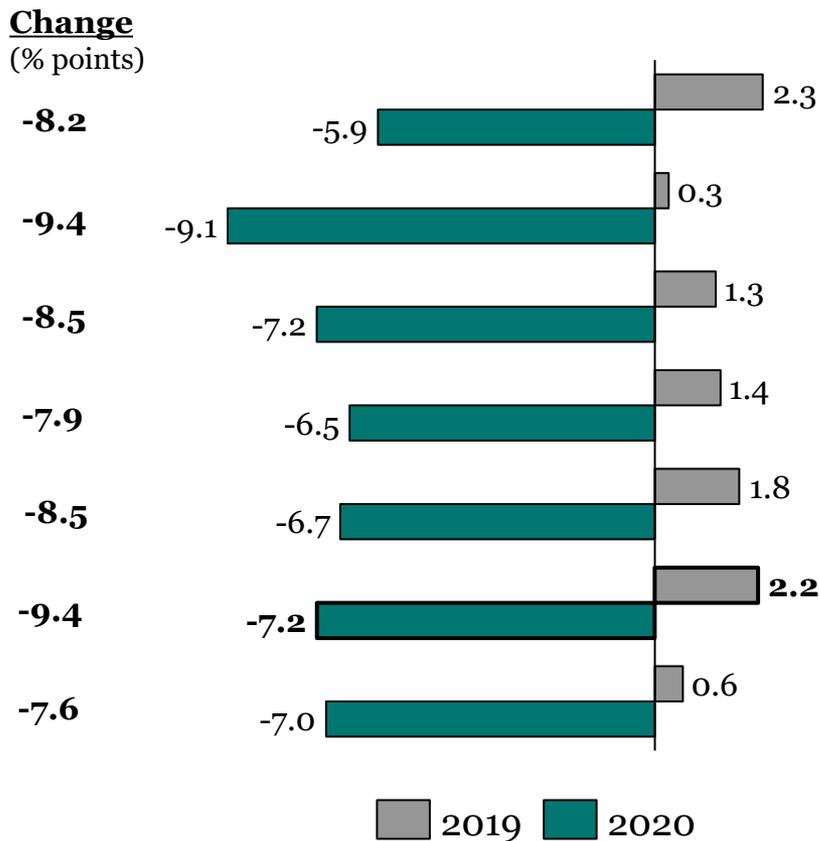
Business failures and household bankruptcies will take time to work through the system and could trigger a financial crisis

Many governments do not have the macro-economic capacity and capability for ongoing fiscal stimulus, or for printing money without triggering high inflation

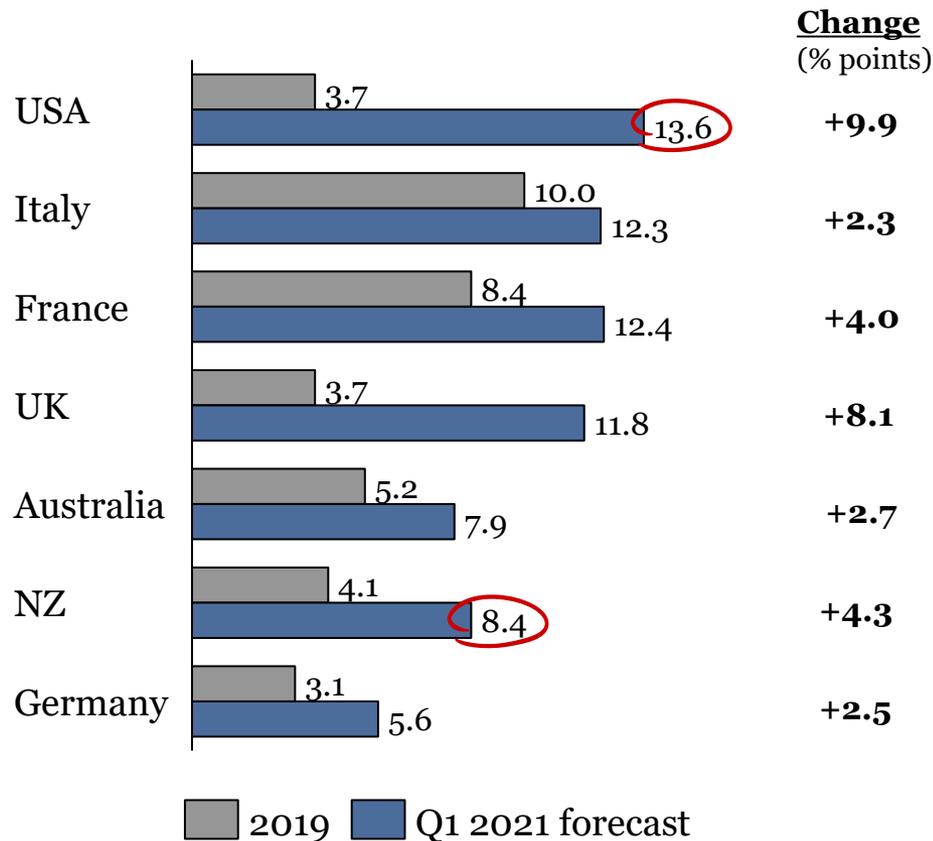
Stressed states will struggle to provide food and forced migrations will increase

GLOBALLY, GDP GROWTH AND UNEMPLOYMENT ARE EXPECTED TO DETERIORATE MATERIALLY

GDP growth rate
(2019 actual 2020 forecast, % real GDP growth)



Unemployment rate
(%, 2019 actual 2021 forecast)



A V-SHAPED RECOVERY FOR NEW ZEALAND APPEARS UNLIKELY (1)

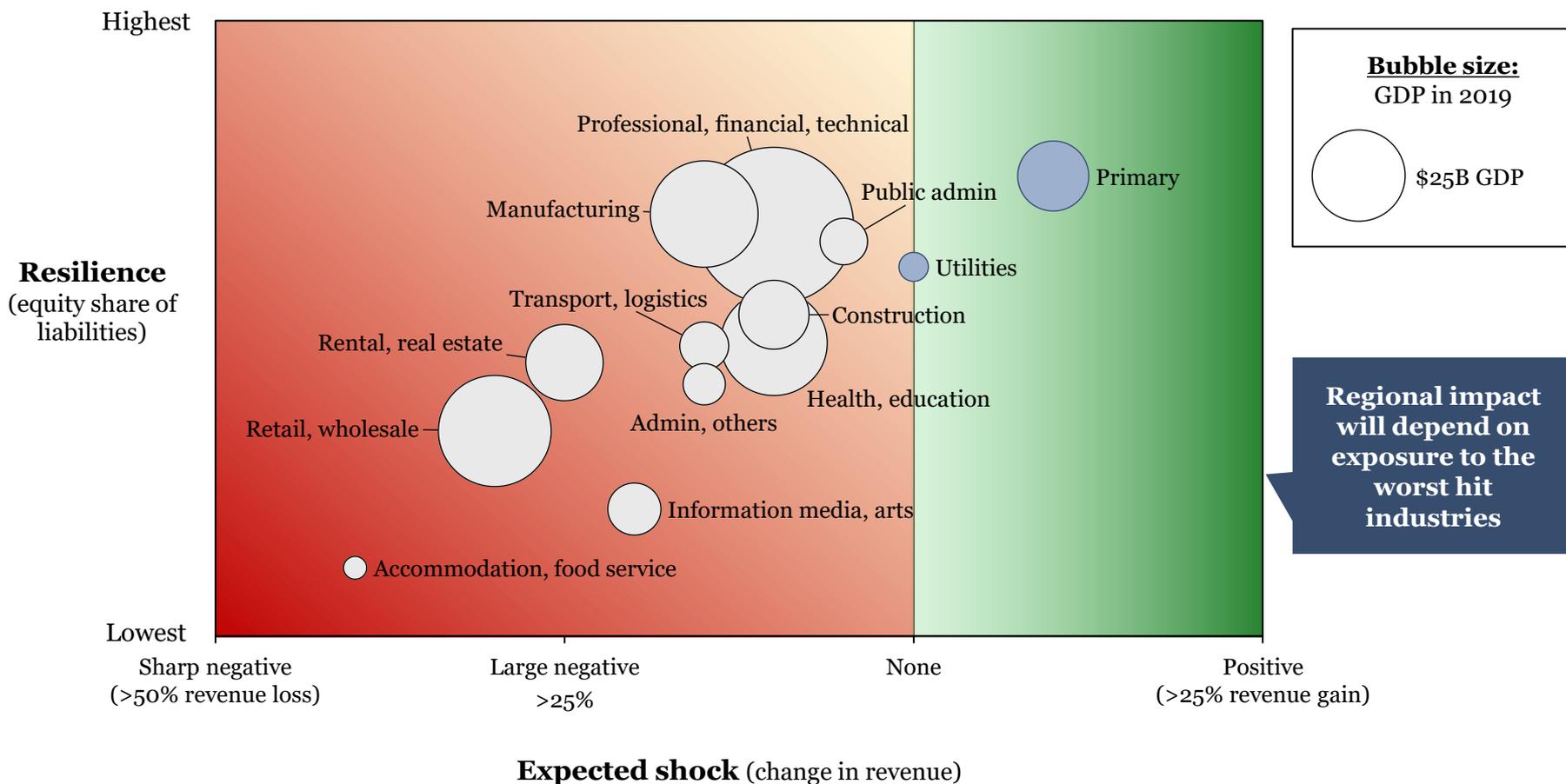
	Driver of V-shaped recovery	NZ outlook	Rationale
Severity and duration of crisis period	Avoid recurrent, asynchronous waves of infections	Likely	<ul style="list-style-type: none"> • Elimination strategy successful • Strong t-capacity likely to be retained to enable rapid and targeted interventions where required
	Effective vaccine or treatment within 12-18mo	Uncertain	<ul style="list-style-type: none"> • Vaccine effort is high, outcome still uncertain • Early international tourism recovery depends on vaccine; also some export volumes
	Few workers and firms become insolvent	Unlikely	<ul style="list-style-type: none"> • Layoffs and insolvencies happening already • Wage subsidies and payment deferrals helpful but may lead to distressed balance sheets and are becoming more difficult to access
Persistence of real-economy shock	Supply chains are quickly re-established	Unlikely	<ul style="list-style-type: none"> • Global supply chains disrupted by asynchronous disease waves and hard to restart • Potential for stronger global trade barriers
	Consumption rapidly returns to previous levels	Unlikely	<ul style="list-style-type: none"> • Potential for sustained unemployment • High household debt with incomes reducing • Changes in consumption patterns (e.g. less luxury)
	Capital investment rapidly increases to previous levels	Uncertain	<ul style="list-style-type: none"> • Private sector failures and deleveraging reduce capex • Partially offset by increase in public investment

A V-SHAPED RECOVERY FOR NEW ZEALAND APPEARS UNLIKELY (2)

	Driver of V	NZ outlook	Rationale
Resilience of the financial system	Low levels of household and corporate debt	Unlikely	<ul style="list-style-type: none"> High levels of private debt before the crisis Payment deferrals (e.g. mortgage payments) increase debt while incomes are reducing
	Low levels of insolvencies/bankruptcies	Unlikely	<ul style="list-style-type: none"> Lockdowns and global trade disruptions likely to drive insolvencies Nationalisation possible but unlikely for SMEs
	Financial institutions and system remain strong	Uncertain	<ul style="list-style-type: none"> Relatively sound financial system Exposed to global financial institutions Exposed to domestic insolvencies and lower household incomes
Effectiveness of economic interventions	Fiscal stimulus effective	Likely	<ul style="list-style-type: none"> Relatively low levels of public debt Capacity to fund current interventions for >2yrs
	Monetary stimulus effective	Uncertain	<ul style="list-style-type: none"> Robust and well-timed intervention so far Little room to lower interest rates, considering negative rates; QE and bank capital ratio easing underway
	Avoid period of austerity and/or high inflation	Uncertain	<ul style="list-style-type: none"> Material headroom available before high levels of public debt achieved (although local government austerity may be required) Hyperinflation possible if ongoing monetary easing is required to resolve public debt crises

MANY OF NZ'S LARGEST SECTORS ARE EXPOSED TO MATERIAL DOWNSIDE FROM A RECESSION

Spectrum of industry impact over medium-term
(Sector resilience and shock)



CAPITAL HAS BECOME A SOURCE OF ADVANTAGE FOR THOSE WITH STRONG BALANCE SHEETS

For investors

BAU sources of capital to enable SME growth likely to become constrained

- Retained earnings threatened by lockdown and recession
- Ability to raise debt threatened by balance sheet stress and banks' risk appetite
- New equity from existing investors may be harder to access (less discretionary capital available, lower risk appetite)

New acquisition opportunities

- If you can fund through to when recovery begins

“Private-equity firms, which have mountains of committed investor cash, may start buying up fundamentally sound but impecunious suppliers in various industries, aware that when demand returns such companies will see its first fruits.”

*The Economist,
The Changes COVID-19 Is Forcing On To Business*

For companies

Ability to fund operations through crisis and downturn will become a source of advantage in disrupted industries

Making strategic plays and taking a long-term perspective were key drivers of TSR differences during the GFC

“Top 20% of companies that emerged from the GFC [which increased TSR] grew revenue by 30%, ... divested 1.5x more during the downturn and acquired 1.2x more during the recovery...”

*McKinsey & Company,
COVID-19 Briefing Materials 25 March 2020*

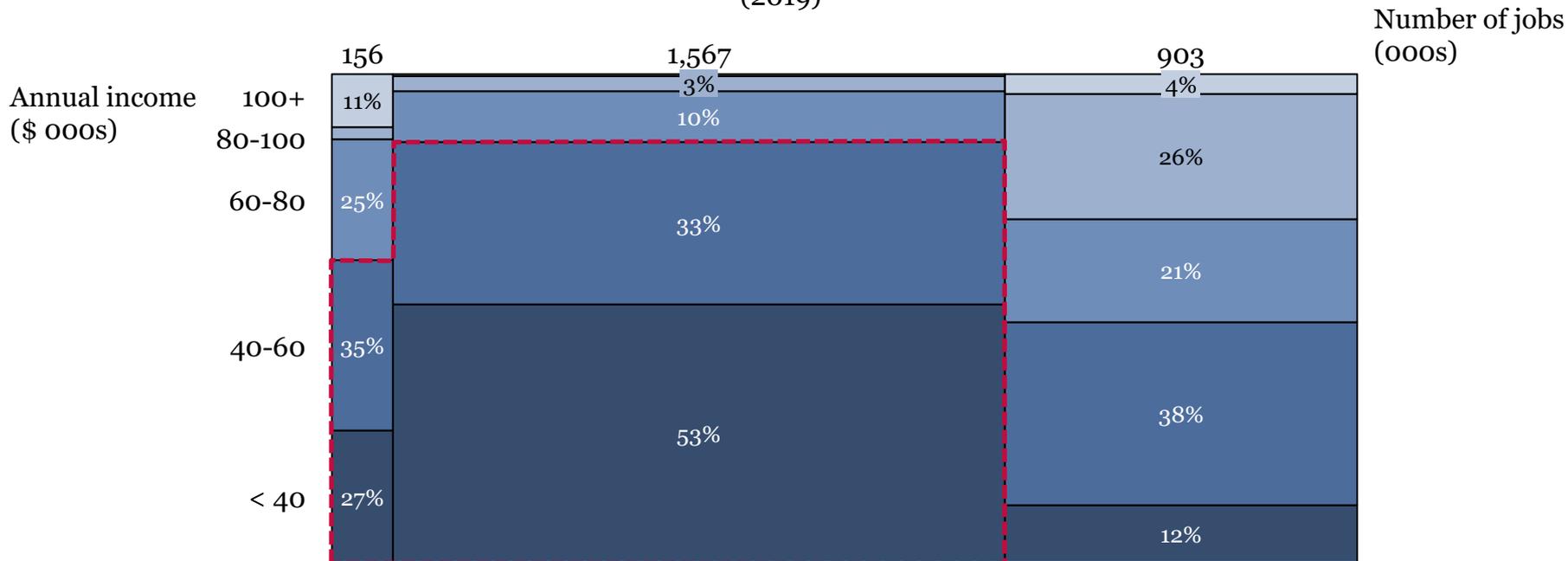
Many companies are already looking at investment and M&A opportunities

“50% of companies have/plan to assess investment and M&A opportunities” during the downturn

*The Boston Consulting Group,
BCG COVID-19 Company Survey*

PUBLIC HEALTH RESTRICTIONS DISPROPORTIONATELY FELT BY PEOPLE IN LOWER INCOME JOBS

Breakdown of New Zealand jobs by annual median income and nature of work
(2019)



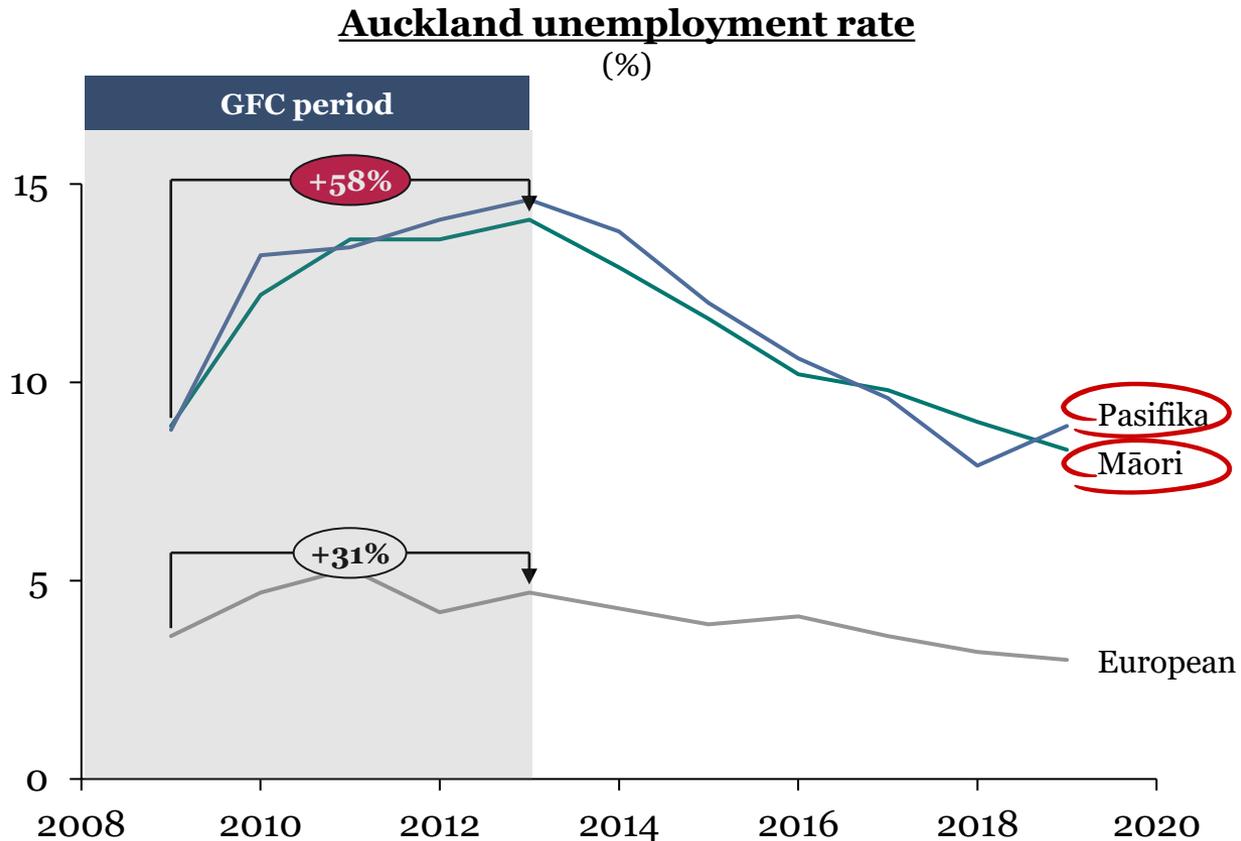
‘Frontline’ roles include those in healthcare or supermarket checkouts where exposure to the virus is higher

Roles that typically require being on site to complete, such as trades workers, plant operators or education providers

Roles typically completed in an office and can more easily be completed from home, such as professional services providers, administrative workers, and managers

Lower income jobs are more likely to be exposed to the virus at work and less likely to have jobs than can be completed from home

MAORI AND PASIFIKA UNEMPLOYMENT RATES ARE ALREADY HIGH AND WERE HIT HARD BY THE GFC



NEW ZEALAND SHOULD WORK TOWARDS A “VIBRANT HAVEN” OR “GREEN NEW WORLD” FUTURE

Long-term scenarios enable robust strategy to be developed in the face of uncertainty

COVID-19 is unlocking forces that may materially alter the future

Four forces are strongly influencing New Zealand’s “new normal” future

“New normal” scenarios developed to test the implications of alternative futures

LONG-TERM SCENARIOS ENABLE ROBUST STRATEGY TO BE DEVELOPED IN THE FACE OF UNCERTAINTY

- ✓ Visualise the shape of the future when there is high uncertainty
- ✓ Build shared understanding of the range of possibilities
 - Future states of the world
 - Strategies and their outcomes
- ✓ Understand the likelihood of the different outcomes
- ✓ Develop strategies that are robust across the scenarios
 - Dominant, least regrets, contingent, minimax, and expected value
- ✓ Identify “triggers” which provide early indication that one scenario is emerging

COVID-19 IS UNLOCKING FORCES THAT MAY MATERIALLY ALTER THE FUTURE

Crisis impacts on forces	Description	Examples of societal forces affected by COVID-19
<p>Accelerated or decelerated</p>	<ul style="list-style-type: none"> • Crisis drives societies to move more rapidly (or slowly) in the direction of existing forces 	<ul style="list-style-type: none"> • ‘Virtual Everything’ accelerated – 5G, work, learning, entertainment, production • Automation accelerated • Prioritisation of wellbeing and sustainability strengthened • Competition between the USA and China intensified
<p>Contradictions resolved</p>	<ul style="list-style-type: none"> • Forces released may have inherent contradictions which are highlighted and must be resolved 	<ul style="list-style-type: none"> • Globalisation and efficiency versus self-sufficiency and resilience • Economic progress versus social and environmental impact
<p>New forces unlocked</p>	<ul style="list-style-type: none"> • Other forces or events may be released by the event or by an actor responding to the event 	<ul style="list-style-type: none"> • Renewed investment in public health • Major political reforms (e.g. the Green New Deal and Universal Basic Income) • Industry consolidation as weaker firms become insolvent and stronger firms acquire rivals

FOUR FORCES ARE STRONGLY INFLUENCING NEW ZEALAND'S "NEW NORMAL" FUTURE

The global economic recovery



- The world was in an economically vulnerable position before the crisis
- COVID-19 has created a severe real economy shock that could become a financial shock with numerous business failures
- Returning to pre-crisis growth rates may not be possible, or desirable

Global integration and collaboration



- Social, political and security tensions were rising before the crisis
- Tensions likely to be accelerated during and after the crisis (e.g. US-China)
- But there are some positive signs (e.g. collaboration on vaccine)

Prioritisation of resilience and sustainability



- The risk of disruptive climate change and significant environmental harm is growing
- The crisis may trigger a de-prioritisation of the environment
- But the experience of the crisis could also accelerate mobilisation and environmental protection

Appetite for long-lasting societal changes



- COVID-19 has already triggered changes to how societies function
- Many changes are likely to endure (e.g. some degree of virtual everything)
- Pressure for more radical changes will grow if the impacts of the crisis become more severe and prolonged

THE SUCCESS OF THE GLOBAL ECONOMIC RECOVERY FROM COVID-19 IS UNCERTAIN

The world was in an economically vulnerable position before the crisis

- The risk of a global financial crisis was growing as seen by rising cyclically adjusted price to earnings ratios
- High rates of public debt and low interest rates mean that the ability of central governments and banks to respond to recessions was limited
- The risk of structurally high unemployment was increasing as artificial intelligence and automation disrupted many industries

The COVID-19 crisis has created a severe real economy shock that could become a financial shock

- Lockdowns have triggered unemployment growth to levels much higher than experienced during the Global Financial Crisis
- Repeated or prolonged waves of infections expected in most developed world countries, and most governments will not be able to continue to fund solvency through repeated or longer lockdowns
- The virus will likely infect a large proportion of developing world people with the potential for significant lethality depending on age profiles, comorbidities, diets, and public health infrastructure
- Asynchronous supply chain disruptions likely as 2nd and 3rd waves impact the developed world, infections disrupt raw materials, production and demand in the developing world, and business insolvencies play out

Returning to pre-crisis growth rates may not be possible, or desirable

- The scale of the human and economic harm could trigger a depression that endures for many years
- Aggressive macro-economic stimulus could trigger a phase of austerity, and hyper inflation is possible
- The crisis could trigger fundamental changes in preferences between economic growth and environmental sustainability which may mean that pre-crisis levels of growth become unattractive

THREATS TO GLOBAL INTEGRATION AND COLLABORATION ARE ENHANCED BY COVID-19

Social, political and security tensions were rising before the crisis

- States failing via combinations of population growth, reduced resources per person, failure to build value-adding economies and pressures from climate change
- Migration from economically weak and failing states increasing ethnic tensions and contributing to shifts to the populist right in developed world
- Increasing inequality combined with slowing economic growth leading to declining real incomes in many countries, except for the very rich
- Protectionist policies and moves to increase self-sufficiency in resources such as energy and food threaten a reversal of globalisation, weakening ties between nations
- Geopolitical tensions growing as the US' dominance weakens, and China is poised to take advantage

Tensions likely to be accelerated during and after the crisis

- Nationalistic rhetoric increasing as a means of shifting blame in countries which have mismanaged the crisis
- Divide between rich and poor likely to increase as poorer countries and households harmed significantly more than the more wealthy
- Autocrats and terrorists capitalising on the opportunities created by the crisis to expand and solidify their powers
- High levels of unemployment increases risk of terrorism, crime and a breakdown of social cohesion
- Likely vaccine supply shortages creates incentive for competitive rather than collaborative development

But there are some positive signs

- For example, the race to develop, produce and distribute a vaccine could unite instead of divide countries

PRIORITISATION OF RESILIENCE AND SUSTAINABILITY MAY STRENGTHEN

The risks from climate change and degrading ecosystems have been growing for the last few decades

The decline in activity from lock-downs and the economic recession is creating a short-term benefit for nature

- Reduced greenhouse gas emissions and air pollution
- Examples of wildlife returning to places that are usually human-dominated

However, there will be negative effects too

- Governments taking advantage of the crisis to relax environment protection regulations (e.g. the US)
- Shortage of capital for investing in environmental improvements (e.g. affordability of renewable generation and electric vehicles)
- Hunting and gathering by some of the projected additional 250m hungry people, depleting ecosystem stocks

The experience of the COVID-19 crisis could lead to increased environmental protection

- Reduced air pollution, congestion, commuting times creating aspiration for better environment management
- Experience of lock-down lifestyles shifting consumers towards less environmentally harmful activities
- Increased recognition of environmental risks and recognition of the importance of long-term outcomes
- Opportunity for some fiscal stimulus to be targeted toward improving environment outcomes (e.g. green tech and green infrastructure)
- Policy reforms that could rebalance aspirations for continued short-term growth versus long-term well-being, including environmental wellbeing (e.g. the Green New Deal)

APPETITE FOR LONG-LASTING SOCIETAL CHANGES GROWING

COVID-19 has triggered material changes to how societies function

- Virtual everything has been dramatically accelerated by the requirement for many to work, learn and play at home
- Sudden and high rates of unemployment have triggered appetite for welfare systems which were considered radical (e.g. the Green New Deal and Universal Basic Income)
- Basic public health practices have become normalised and will likely increase as the crisis continues (e.g. mask wearing, physical distancing, staying at home more)

Many changes are likely to endure

- People, businesses and governments are recognising the benefits of some changes (e.g. retaining the ability to work from home for some portion of office workers' time)
- The science of habit-forming shows that three weeks is the required amount of time for a new behaviour to become a habit¹
- Some changes are structural and will not be easy to reverse (e.g. reform promises required to win elections during a national crisis)

Pressure for more radical changes will grow if the impacts of the crisis become more severe and prolonged

“NEW NORMAL” SCENARIOS DEVELOPED TO TEST THE IMPLICATIONS OF ALTERATIVE FUTURES

“New normal” scenarios (~2022+)

Scenario	Scenario drivers				High-level story
	World economy recovers?	World remains integrated?	Environment & resilience prioritised?	Societal changes retained?	
Green New World	✓	✓	✓	✓	<ul style="list-style-type: none"> World recovers from the COVID-19 crisis Crisis highlights environmental and resilience risks which propels action Positive changes adopted during the crisis are retained
Vibrant Haven	✗	✗	✓	✓✓	<ul style="list-style-type: none"> Global recovery partial, very slow or non-existent Competition triumphs over collaboration Global uncertainty increases, triggering investments in resiliency New Zealand seen as a safe haven
Return To Normal	✓	✓	✗	✗	<ul style="list-style-type: none"> World recovers and remains integrated but fails to incorporate the lessons from COVID-19 Emphasis remains on efficiency and growth over resilience and wellbeing Life returns to pre-crisis normal
Struggling Alone	✗	✗	✗	✗	<ul style="list-style-type: none"> Breakdown in global systems prohibits successful virus recovery Competition leads to confrontations Risk of future disruptions increases Resilience and wellbeing deprioritised

“GREEN NEW WORLD” ANTICIPATES TRANSFORMATIVE AND POSITIVE CHANGES

World recovery



- Developed world recovers slowly from COVID-19 recession
- Developing world devastated by COVID-19 but supported by richer countries
- Keynesian stimulus skewed towards green infrastructure investments
- Increasingly wellbeing is decoupled from economic growth

Global integration



- Collective effort on COVID-19 vaccine development, production and distribution highlights importance of collaboration
- Accelerated decline of US and rise of China continues without major conflict
- Supply chain disruptions drive diversification instead of onshoring

Priority on resilience



- COVID-19 crisis highlights vulnerabilities to environment risks and feasibility of environment protection
- Supply chain resilience becomes a permanent “board level” issue and countries seek to control strategic supply chains directly or bilaterally
- Public health investment remains high

Societal changes



- Many people continue to work, learn and play virtually for a material portion of their time
- High unemployment, acceleration of automation, prioritisation of wellbeing and political priorities drive more radical societal reforms

“VIBRANT HAVEN” ANTICIPATES DARK GLOBAL CLOUDS AND ENLIGHTENED LOCAL LEADERSHIP

World recovery



- COVID-19 real economy recession triggers a developed world financial crisis and periods of austerity
- Developing world countries fend for themselves and do not recover from the harm inflicted by the virus
- Consumer preferences change towards more affordable and sustainable consumption

Global integration



- Superpowers trade blame to distract from domestic failures
- Globalisation recedes amid escalating major power tensions (Ru, PRC, USA)
- Risk of regional or global conflicts grows as economic depression deepens
 - Flashpoints include Hong Kong, Taiwan, SC Sea, Ukraine, Belarus
- Developing world famine and disease cause a migration crisis

Priority on resilience



- COVID-19 crisis triggers stronger environmental protection, but not all countries play their part
- Need for supply chain resilience which leads to significant onshoring
- New Zealand, rich in food and natural resources and water, faces global demand pressures

Societal changes



- People, capital and businesses see New Zealand as a safe haven
- Sustainability seen as a differentiator
- Many people continue to work, learn and play virtually for a material portion of their time
- Structural high and enduring unemployment globally increases pressure for radical societal reforms; New Zealand is a fast follower

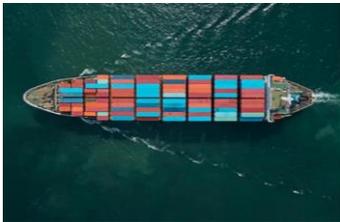
IN “RETURN TO NORMAL” NEW ZEALAND IS ON A PATH TOWARDS FUTURE DISRUPTIONS

World recovery



- A financial crisis is avoided but the developed world still recovers slowly
- Developing World recovery supported by rapid restart of primary resource extraction industries and manufacturing
- Consumer preferences return to less sustainable, pre-crisis, norms

Global integration



- Collective effort on COVID-19 vaccine development, production and distribution highlights importance of collaboration
- Accelerated decline of US and rise of China continues without major conflict
- Supply chains return to normal – prioritising efficiency over resiliency

Priority on resilience



- Environmental protections relaxed as need to stimulate the economy is viewed as more important than sustainability
- World continues on path to exceed a 2° C temperature increase
- New Zealand does not prioritise economic stimulus that creates positive environmental outcomes, focusing instead of economic and social issues

Societal changes



- Values and behaviours return to the pre-crisis “normal”
- The economic recovery reduces pressure for more radical reforms
- Inequality continues to increase with some nations, regions and communities left behind

“STRUGGLING ALONE” TESTS THE IMPACTS OF ONGOING AND MORE HARMFUL CRISES

World recovery



- The global economy never fully recovers from the COVID-19 real economy recession, financial crisis and periods of austerity ensue
- Unemployment and homelessness increases as many businesses and households become insolvent
- Consumer preferences permanently change towards more affordable products and services, sustainability is seen as discretionary

Global integration



- Globally economic, geopolitical, social and environmental uncertainty leads to an increase in zero-sum behaviour
- Globalisation recedes and the risk of regional or global conflict increases
- New Zealand is forced to make a trade-off between prioritising its security interests (with the US) and economic interest (with the PRC)

Priority on resilience



- The risk of disruptive climate change grows rapidly as countries renege on international climate treaties and relax environmental protections
- The near-term impacts of climate change are greater than expected
- The number of climate refugees seeking refuge in safer countries increases
- Supply chains are rapidly on-shored to reduce international dependencies

Societal changes



- Values and behaviours returns to the pre-crisis “normal”
- Economic wellbeing is prioritised over social, cultural and environmental wellbeing
- The world becomes a place of “the haves” and “the have-nots”, and New Zealand is no exception

NEW ZEALAND'S STRATEGY SHOULD BE PRIORITISE ECONOMIC AND NON-ECONOMIC WELLBEING

Action is required to build a better future than was likely before the COVID-19 crisis

- Globally, action is required to avoid a climate crisis driven by over-consumption of natural resources and shift onto a 'soft-landing' trajectory
- Domestically, action is required to avoid worse outcomes on important wellbeing indicators

The COVID-driven recession is a threat which creates opportunities for progress

New Zealand should set out to achieve a “Vibrant Haven” or “Green New World” future

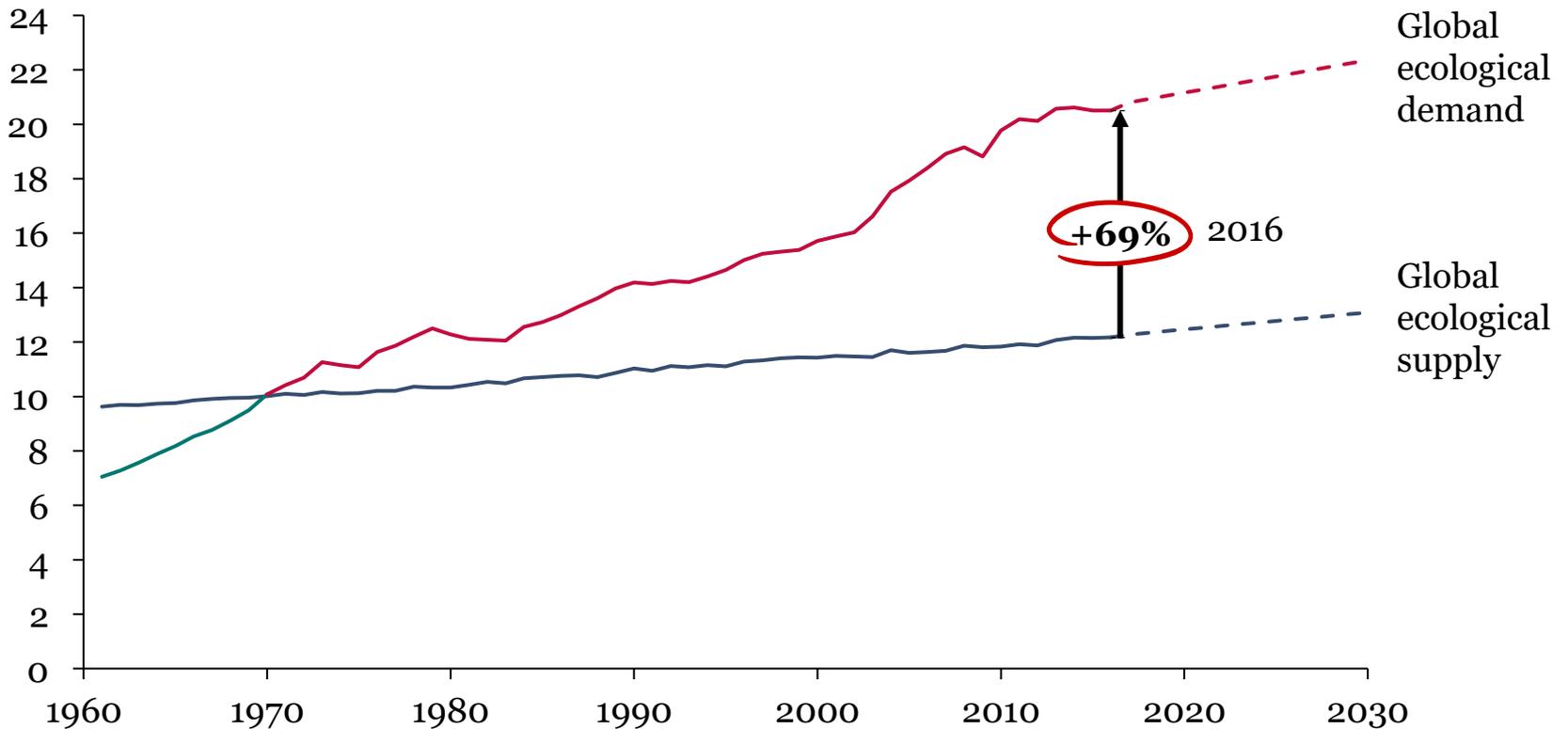
- “Vibrant Haven” and “Green New World” are the most attractive “new normal” scenarios
- The drivers which lead to a “Vibrant Haven” future are within New Zealand’s control

Achieving a positive future for New Zealand requires strategy which prioritises broader forms of wellbeing as well as economic

- Social strategy should support vulnerable people, communities and cultural wellbeing
- Environmental strategy should accelerate electrification, dematerialisation and regeneration
- Economic strategy should support social and environmental outcomes

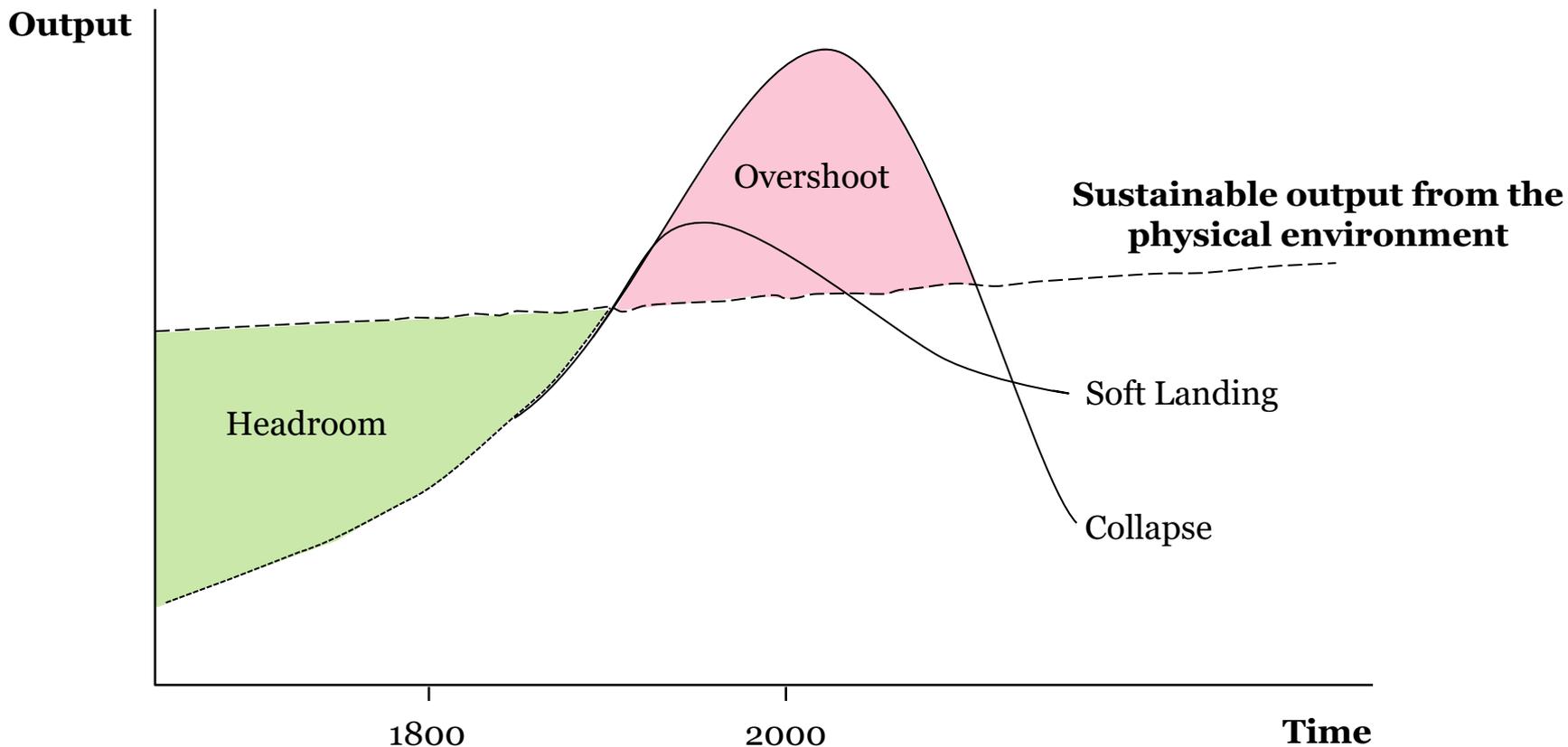
GLOBALLY, ACTION IS REQUIRED TO AVOID AN ENVIRONMENTAL CRISIS DRIVEN BY OVER-CONSUMPTION...

Comparison of global ecological demand and supply
(billions of hectares, 1961-2016)



...AND SHIFT ONTO A 'SOFT-LANDING' TRAJECTORY

The environmental challenge: 'soft-landing' or 'collapse'



DOMESTICALLY, ACTION IS REQUIRED TO AVOID WORSE OUTCOMES ON IMPORTANT WELLBEING INDICATORS (1)

Indicator	Measure	2011 value	2019 value	COVID-19 impact*	Comment
Social					
Unemployment	Unemployment rate	6.5%	4.2%	Negative	Treasury estimates unemployment to increase to 13% in their best-case scenario
Income inequality	Gini value (lower is better)	0.33	0.34	Negative	Lower income households disproportionately harmed by pandemic and recession
Assault mortality	Rate per 100,000	1.3	1.1	Negative	Police report increases in domestic violence during lockdown and past recessions
Suicide	Rate per 100,000	11.2	11.0	Negative	GPs have seen an increase in mental health issues which is likely to continue in the medium term
Life expectancy	Years	80.8	81.9	Uncertain	Too early to discern impacts

Source: Adapted from research completed by Stakeholder Strategies on New Zealand's performance on a range of social, economic and environmental measures relative to other OECD countries, and research of international literature.

* During the crisis and post-crisis recession period.

DOMESTICALLY, ACTION IS REQUIRED TO AVOID WORSE OUTCOMES ON IMPORTANT WELLBEING INDICATORS (2)

Indicator	Measure	2011 value	2019 value	COVID-19 impact*	Comment
Environmental					
CO2 concentration in atmosphere	Parts per million CO2 in atmosphere	392 ppm	407 ppm	Uncertain	Too early to discern impacts
CO2e emissions per capita	Tonnes of CO2 emitted per capita per annum	12.61 T	17.0 T		<ul style="list-style-type: none"> The GFC drove a drop in global carbon emissions CO2 emissions in 2020 are expected to decline by 5-10%, the largest drop since WWII
Agricultural land	Agricultural land per capita	2.7 Ha	2.3 Ha		<ul style="list-style-type: none"> Long term impact will be driven by shape and speed of recovery, and whether environmental commitments are upheld during and beyond the recover period
Water quality	Nitrate concentration	0.99mh/L nitrate	1.01mh/L nitrate		
Invasive species	Annual spend on eradication	\$3.3b	\$6.4b		Uncertain

Source: Adapted from research completed by Stakeholder Strategies on New Zealand's performance on a range of social, economic and environmental measures relative to other OECD countries, and research of international literature.

* During the crisis and post-crisis recession period.

DOMESTICALLY, ACTION IS REQUIRED TO AVOID WORSE OUTCOMES ON IMPORTANT WELLBEING INDICATORS (3)

Indicator	Measure	2011 value	2019 value	COVID-19 impact*	Comment
Economic					
Household wealth	Gross National Savings % of GDP	17.7%	20.2%	Negative	Lockdown and recession will impact incomes and reduce asset values
GDP per capita	\$/Capita	\$48,367	\$54,027	Negative	Treasury scenarios project GDP to be 13.5% to 34% lower in 2021 than 2019 forecasts
Labour productivity	Real \$/hour	\$58.0	\$60.0	Negative	Has not recovered since GFC shock, any increase likely due to low-skilled job loss
Innovation and dynamism	OECD index (higher is better)	4.3 index value	4.8 index value	Negative	Startup Genome estimates 74% of early-stage innovators are downsizing due to COVID-19
Educational achievement	Mean PISA score	524	503	Uncertain	Lockdown has exposed learning inequalities but it is too early to discern the impact of the recession

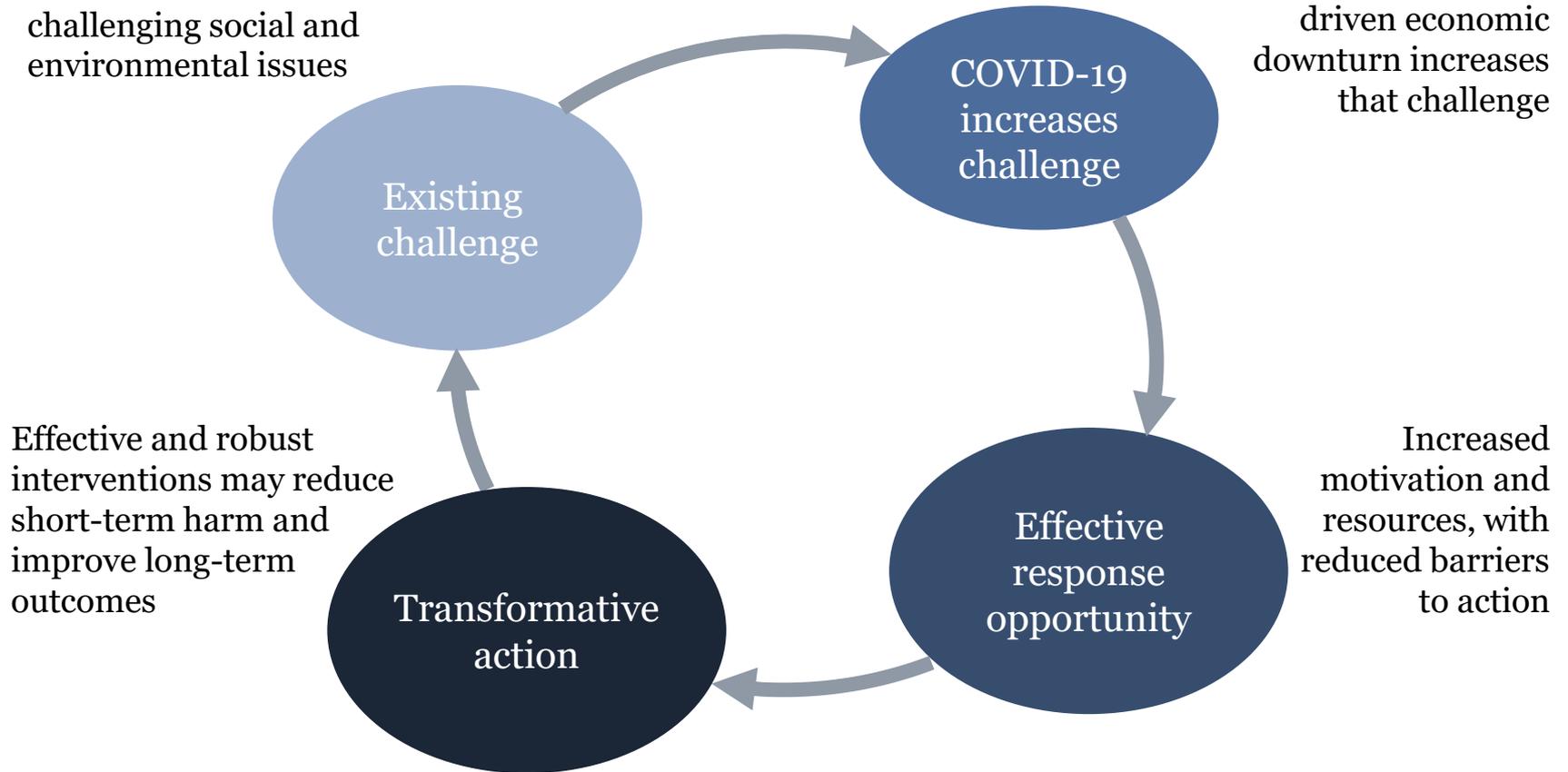
Source: Adapted from research completed by Stakeholder Strategies on New Zealand’s performance on a range of social, economic and environmental measures relative to other OECD countries, and research of international literature.

* During the crisis and post-crisis recession period.

THE COVID-DRIVEN RECESSION IS A THREAT WHICH CREATES OPPORTUNITIES FOR PROGRESS

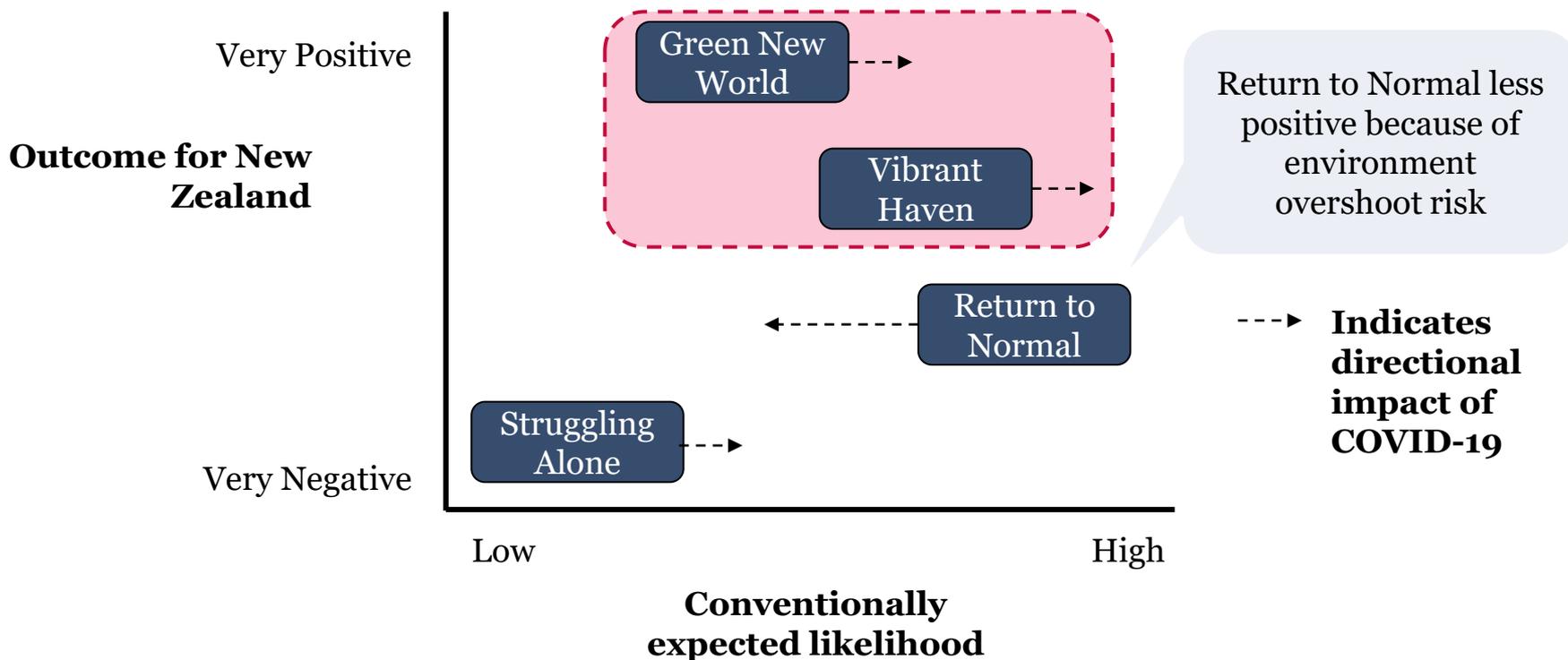
New Zealand faces challenging social and environmental issues

The COVID-19 driven economic downturn increases that challenge



“VIBRANT HAVEN” AND “GREEN NEW WORLD” ARE THE MOST ATTRACTIVE “NEW NORMAL” SCENARIOS

Relative likelihood and attractiveness of “new normal” scenarios for New Zealand

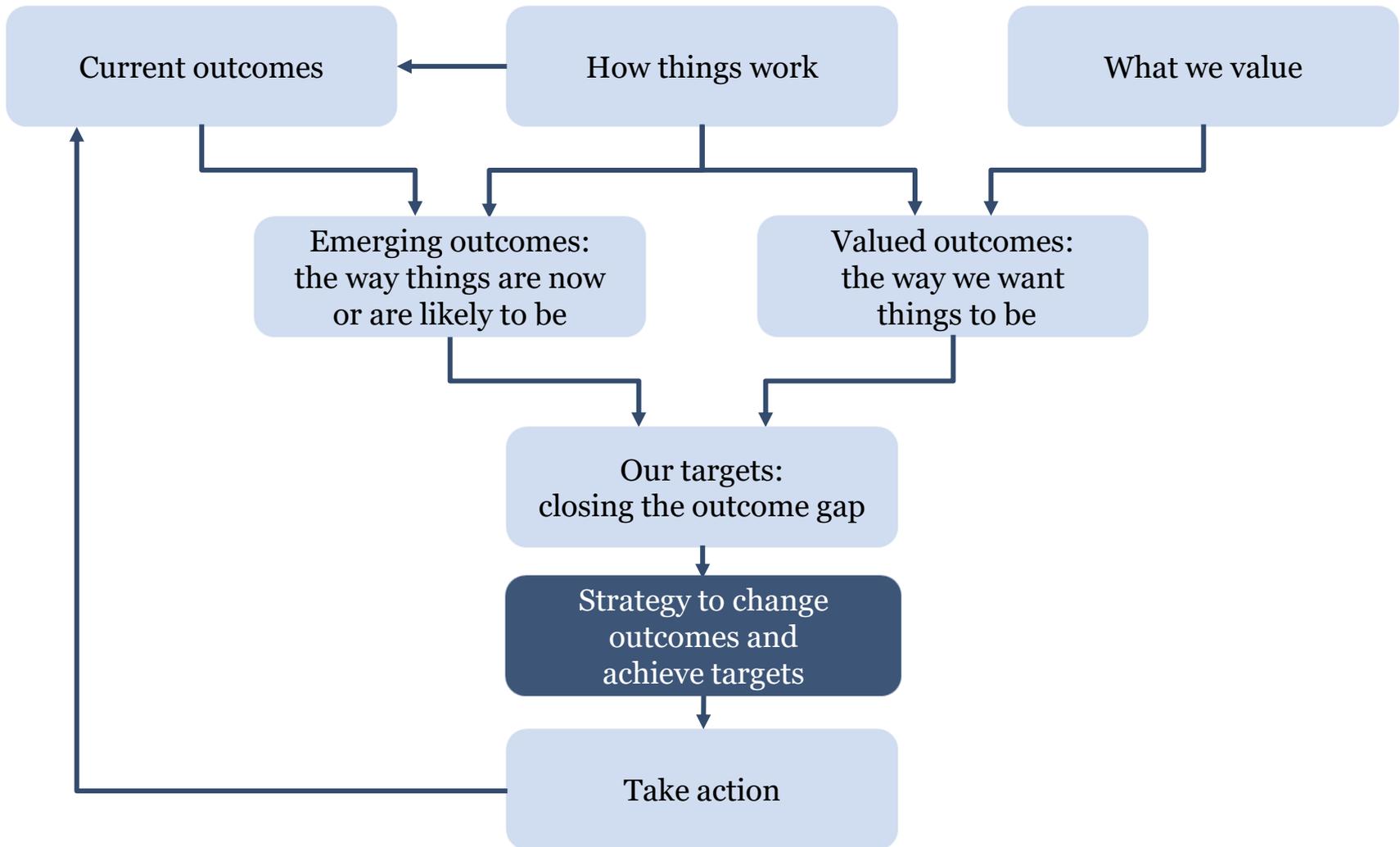


THE DRIVERS WHICH LEAD TO A “VIBRANT HAVEN” FUTURE ARE WITHIN NEW ZEALAND’S CONTROL

New Zealand’s control over “new normal” scenario drivers

“New normal” scenario driver	Within NZ’s control?	Explanation	Example action
World economy recovers?	✘	<ul style="list-style-type: none"> • Small player in global economy • Only partial control of domestic outcomes due to global exposure as a trading nation 	<ul style="list-style-type: none"> • Focus on domestic economic recovery and build resilience for future shocks
World remains integrated?	✘	<ul style="list-style-type: none"> • Large influence relative to size but still small relative to the size of global super powers and the forces at play 	<ul style="list-style-type: none"> • Advocate in international forums for cooperation and maintain neutrality
Environment and resilience prioritised?	✔	<p style="color: red; text-align: center;">The drivers which lead to a “Vibrant Haven” future</p> <ul style="list-style-type: none"> • Exposed to global choices and outcomes but able to control or influence domestic behaviour 	<ul style="list-style-type: none"> • Climate policies to accelerate electrification • Support for green innovation
Societal changes retained?	✔		<ul style="list-style-type: none"> • Flexible work policies • Investment in education to enable ‘just transitions’

STRATEGIES WHICH CLOSE THE OUTCOME GAP SHOULD BE DEVELOPED



SOCIAL STRATEGY SHOULD SUPPORT VULNERABLE PEOPLE, COMMUNITIES AND CULTURAL WELLBEING

Social strategy will be most important during the COVID-19 crisis because of the scale of the likely harm to vulnerable people and the consequences of that harm

Innovative social solutions should smooth the transition pathway for people who lose their jobs and incomes, to ensure that they are productively occupied, learning, and advancing their opportunities

- Evidence from the 1992/1993 recession and the Global Financial Crisis demonstrates that social harms from widespread unemployment can be widespread and enduring

Building social cohesion and community capital are important investments for long-term resilience and there will be human and community resources in abundance within New Zealand during the next few years

Strengthening cultural wellbeing should be prioritised by emphasising Te Ao Māori values of stewardship (kaitiakitanga) and cooperative effort (kotahitanga), and supporting iwi investment

- However New Zealand must address disproportionate deprivation among Māori and Pasifika communities if it is to fully thrive

New Zealand should prepare for an influx of returning New Zealanders, who may exacerbate existing physical and social infrastructure constraints, and to prioritise filling roles vacated by migrant workers with New Zealanders

ENVIRO STRATEGY CAN ACCELERATE ELECTRIFICATION, DEMATERIALISATION AND REGENERATION

Existing policies to improve environmental outcomes should be accelerated and may offer temporary jobs to help limit the economic harm from the crisis

The transition to clean energy, through electrification and investment in enabling generation and network infrastructure, should be accelerated and has the potential to reduce New Zealand's carbon emissions by ~25% by 2050¹

- Some opportunities are economic or nearly economic now, and could be deployed rapidly to create jobs. For example, transitioning to LED lighting, deployment of electric heat pumps to replace small scale low-heat coal fired boilers, installing solar power on commercial roofs, and preparing New Zealand's electricity systems for increasing and more complex demands

Dematerialising consumption is a likely long-term trend that should be supported through adoption of virtual and automated technologies, both of which have experienced accelerated uptake during the COVID-19 crisis

Finally, New Zealand's environmental strategy should invest in community aspirations and capabilities to protect and restore ecological systems

- Experience shows that change led and owned by communities tends to be more durable and resilient

ECONOMIC STRATEGY CAN SUPPORT SOCIAL AND ENVIRONMENTAL OUTCOMES (1)

The “process of creative destruction”, where businesses fail and the assets and employees transition into new opportunities, should be smoothed

- Businesses that succeed through large scale financial crises are those which are financially strong and offer things that people will continue to need, like food, and those that innovate to most effectively take advantage of the new opportunities that arise
- Businesses that will not be productive and successful in the future should be allowed to fail during the crisis and their resources should be redeployed

Long-term wellbeing and resilience needs to be prioritised over short-term growth and efficiency

- Further supply chain diversification, onshoring and bilateral agreements and strategic inventory holding is likely
- Several governments including New Zealand’s have adopted wider definitions of wellbeing
- Research indicates that investment in green technology, education and research development may be the best long-term economic response to COVID-19¹

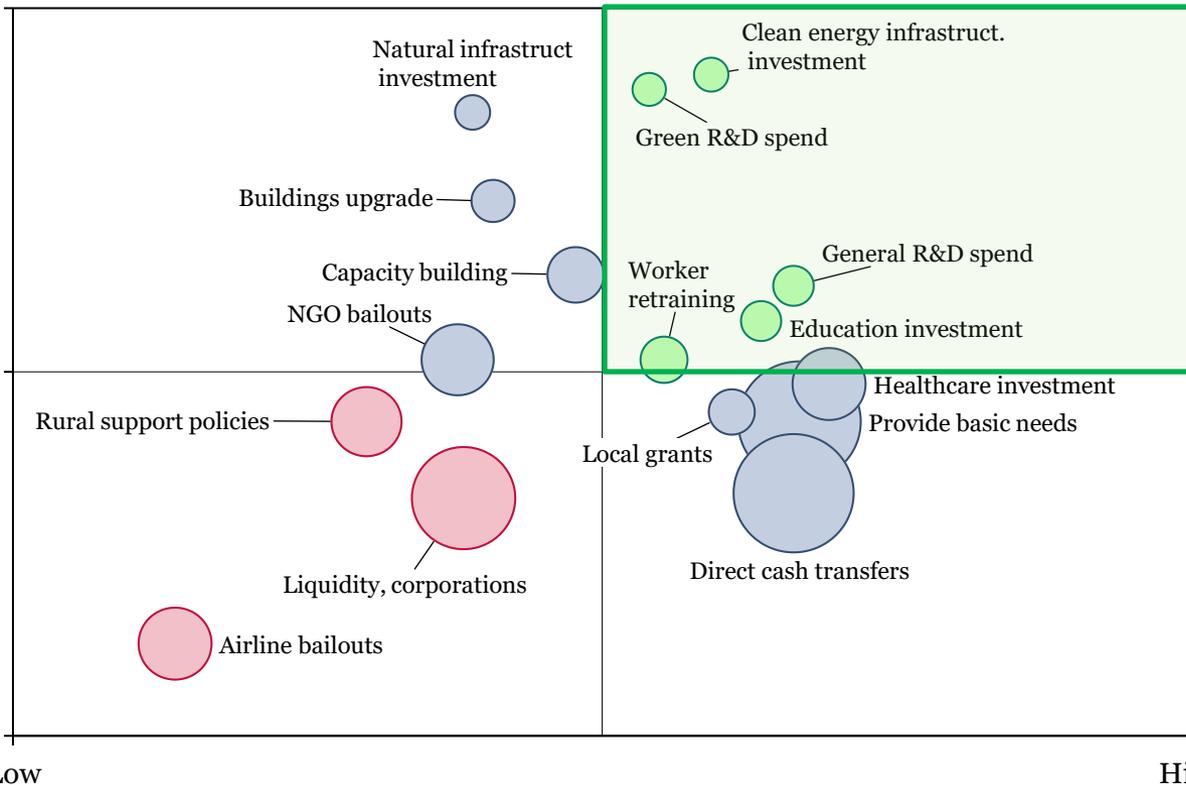
New Zealand’s training system needs to be adapted so that young people, especially young Māori, and Pasifika, stay engaged at school, do not leave school early and are able to train and develop through to high quality jobs in industries that are growing quickly

INVESTMENT IN GREEN TECH, EDUCATION AND R&D EXPECTED TO BE BEST COVID RESPONSE

Global evaluation of potential COVID-19 response policies¹
(Qualitative survey, n=276)

Climate impact

Highly positive



Legend

Bubble size
Exp. speed of implementation

Colour:

- Green circle: Ideal recovery policies (Top right quadrant)
- Blue circle: Valuable recovery policies (Top left or bottom right)
- Red circle: Low value recovery policies (Bottom left quadrant)

Highly negative

Low

High

**Long run
Economic multiplier**

¹ Note: data is based on qualitative scoring by experts from academia, public policy offices and think-tanks responding to Oxford University survey.

Source: Oxford Review of Economy Policy: *Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?*

ECONOMIC STRATEGY CAN SUPPORT SOCIAL AND ENVIRONMENTAL OUTCOMES (2)

The Government should play a more active role in identifying and enabling success in attractive industries for New Zealand

- Many other countries have demonstrated that new industry opportunities can be identified and facilitated, and New Zealand can do much more to support industry growth
- Recently, several researchers have identified the need for New Zealand to improve its industry and “cluster” development by “backing winners”¹

Tourism has been hit hard and New Zealand may want to limit future growth to avoid undesirable consequences

- Some destinations have become so heavily utilised that the experience was deteriorating along with the environment
- Many tourism jobs are low productivity so shifting people from tourism and hospitality into higher value jobs will be economically beneficial long-term

In addition to investing in stimulating the economies recovery from COVID-19, the Government should will also need to begin preparing for the next crisis

- It will take decades to bring Government’s net debt back to pre-COVID levels
- During that time, it is likely that there will be another crisis, or more than one
- When balance sheet resilience is depleted there are fewer options to respond to a crisis, so austerity may become unavoidable and would create significant social harm

ORGANISATIONS SHOULD ADOPT TOOLS WHICH HELP TO NAVIGATE HIGH UNCERTAINTY

Take four steps to help navigate high uncertainty

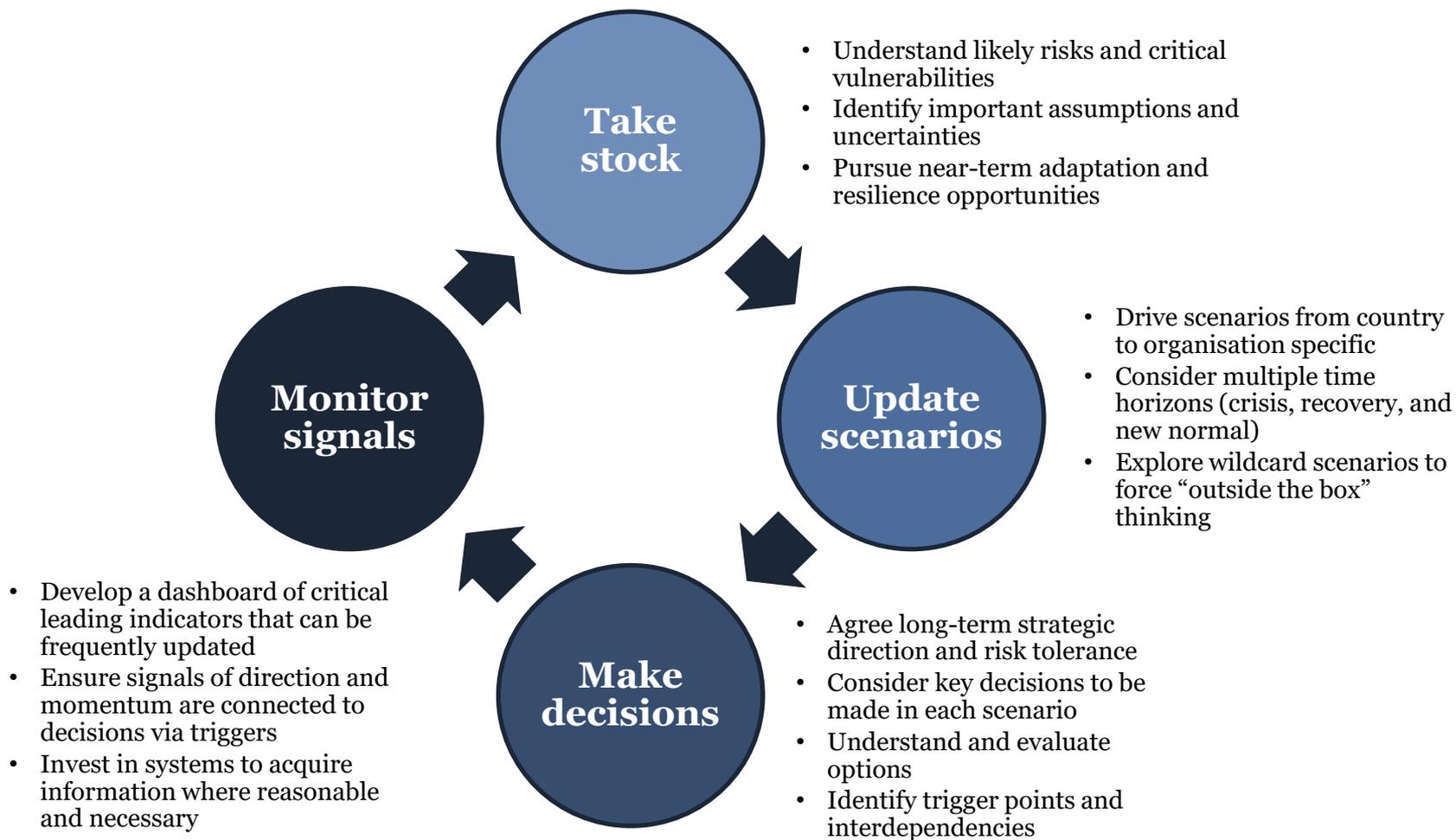
Identify critical vulnerabilities, uncertainties and opportunities

Confirm strategic stance during crisis and recovery periods

Identify dominant, contingent and mini-max options

Deliberately shift mind-sets to cope with greater uncertainty and risk

TAKE FOUR STEPS TO HELP NAVIGATE HIGH UNCERTAINTY



IDENTIFY CRITICAL VULNERABILITIES, UNCERTAINTIES AND OPPORTUNITIES

	Vulnerabilities	Uncertainties	Opportunities
Society	<ul style="list-style-type: none"> • Social dysfunction from higher unemployment and inequality • Environmental and cultural wellbeing sacrificed for economic recovery 	<ul style="list-style-type: none"> • Appetite for material reforms • Societal value changes (e.g. for cohesion versus competition) • Impacts of global socio-political situation 	<ul style="list-style-type: none"> • “Never let a good crisis go to waste” • Fringe ideas become main-stream (e.g. Green New Deal) • Values more malleable
Economy	<ul style="list-style-type: none"> • Exposure to recession depending on industry concentration and resilience • Businesses and household insolvencies 	<ul style="list-style-type: none"> • Global economic rebound and implications for NZ economy • Effectiveness of fiscal and monetary stimulus • Supply chain onshoring vs diversification 	<ul style="list-style-type: none"> • Government appetite to accelerate economic development plans • Investments shift economic activity to more productivity and resilient industries
Industry	<ul style="list-style-type: none"> • Ongoing and asynchronous supply chain disruptions • Shift to substitute services and online channels • Industry workforce shortages 	<ul style="list-style-type: none"> • Implications of societal and economic changes • Industry consolidation and competition • Size and shape of targeted stimulus 	<ul style="list-style-type: none"> • Increase in industry collaboration and advocacy • Government appetite to invest in stimulus and resilience • Potential increase in workforce supply
Organisation	<ul style="list-style-type: none"> • Leverage, cost base, cashflow and access to capital • Reliance on physical operations and supply chains • Competitors with deeper pockets 	<ul style="list-style-type: none"> • Implications of societal, economic and industry changes • Lasting changes in consumer preferences • Supply chain disruptions 	<ul style="list-style-type: none"> • Acquire less resilient competitors • Leverage crisis to drive transformation • Engage customers and suppliers to build resilience

CONFIRM STRATEGIC STANCE DURING CRISIS AND RECOVERY PERIODS

Purpose

Defines what success looks like

Strategic stance
during the COVID-19
crisis periods

Transformative	<p>Adaptive</p> <ul style="list-style-type: none"> Enhance the core Leverage external forces to drive internal transformations 	<p>Visionary</p> <ul style="list-style-type: none"> Bold investments and innovations New products, markets, industries, policies
	<p>Conservative</p> <ul style="list-style-type: none"> Protect the core Reduce discretionary activity, build foundation for future 	<p>Opportunist</p> <ul style="list-style-type: none"> Alert and responsive Acquisitions, option development, targeted interventions
Optimising	Defensive	Aggressive

Strategy

Plan to achieve success during and after the COVID-19 crisis

IDENTIFY DOMINANT, CONTINGENT AND MINI-MAX OPTIONS

Option type	Overview	Response	Examples
Dominant	Most attractive course of action under all scenarios	<ul style="list-style-type: none"> Depending on time horizon: <ul style="list-style-type: none"> – Execute – Investigate – Monitor 	Maintaining testing and contact tracing capacity <ul style="list-style-type: none"> Sufficiently valuable with high and low rates of infection
Least regrets	Likely to be valuable in most scenarios		Infrastructure investments in hubs of high demand <ul style="list-style-type: none"> E.g. CBD transport capacity
Contingent	Only attractive under some scenarios	<ul style="list-style-type: none"> Build agility (e.g. invest in completing detailed design) Build acuity (e.g. identify and monitor triggers) 	Most infrastructure investment <ul style="list-style-type: none"> Becomes attractive when demand rebounds and is likely to exceed supply
Mini-max	Minimise the possible loss from the worst scenario	<ul style="list-style-type: none"> Option analysis to determine expected value relative to expected exposure 	Supply chain contingencies <ul style="list-style-type: none"> Disruption very costly relative to cost of contingency option
Expected value	Highest value bet given scenario probabilities		Locating a factory <ul style="list-style-type: none"> Best choice given expected customer and supplier locations

DELIBERATELY SHIFT MIND-SETS TO COPE WITH GREATER UNCERTAINTY AND RISK

Change required	Pre-COVID state	Required state	Rationale
Shift from deterministic to probabilistic planning	<ul style="list-style-type: none"> Ignoring uncertainty Dealing with uncertainty as an afterthought Considering uncertainty but acting on base case 	<ul style="list-style-type: none"> Understand risk aversion Make least-regrets decisions Iterate as information becomes available 	<ul style="list-style-type: none"> Humans are naturally deterministic thinkers, but a intentionally probabilistic strategy will get better results more often
Shift from top-down to integrated nerve centre	<ul style="list-style-type: none"> Tendency to pull close small group of trusted advisors Seeking control to manage risk 	<ul style="list-style-type: none"> Seek order not control – make expectations clear Delegate decisions that you can Empower leaders with character 	<ul style="list-style-type: none"> Involving more people results in better decisions, and with proper structure, faster decisions and better buy-in
Switch from maximum value creation to minimising loss	<ul style="list-style-type: none"> Make decisions and manage negotiations for maximum value creation 	<ul style="list-style-type: none"> Act to minimise chance of catastrophe Understand risk tolerance and aversion 	<ul style="list-style-type: none"> In high-risk environments, avoiding catastrophe and surviving should be top priority
Balance need for speed with need for careful consideration	<ul style="list-style-type: none"> Tendency to make rash moves when situation is changing rapidly 	<ul style="list-style-type: none"> Slow down, take a breath Ask what is important and what isn't, what might be missed Act swiftly but calmly 	<ul style="list-style-type: none"> High levels of uncertainty and need for rapid action mean blind spots are likely

FURTHER INFORMATION

For further information on how we can help you, please contact:

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More information on Stakeholder Strategies can be found at www.stakeholderstrategies.co.nz

To receive any future COVID-19 research from Stakeholder Strategies, please subscribe to our mailing list here: <https://stakeholderstrategies.co.nz/covid-contact/>

Thank you,

The Stakeholder Strategies team